



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,974	01/29/2004	Brian T. Denton	BUR920040009US1	1973
29154	7590	09/15/2010	EXAMINER	
FREDERICK W. GIBB, III Gibb Intellectual Property Law Firm, LLC 844 West Street SUITE 100 ANNAPOLIS, MD 21401			KARDOS, NEIL R	
			ART UNIT	PAPER NUMBER
			3623	
			NOTIFICATION DATE	DELIVERY MODE
			09/15/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

support@gibbiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,974	<b>Applicant(s)</b> DENTON ET AL.	
	<b>Examiner</b> Neil R. Kardos	<b>Art Unit</b> 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-21 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-21 and 23-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :3/1/10, 4/15/10, 5/17/10, 8/10/10.

Art Unit: 3623

### **DETAILED ACTION**

This is a **NON-FINAL** Office Action on the merits in response to the request for continued examination filed on June 1, 2010. Currently, claims 1-8, 10-21, and 23-27 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 1, 2010 has been entered.

#### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3623

**Claims 1, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde (US 2003/0065415) in view of Dangat (US 5,971,585).**

Claim 1: Hegde discloses a computer-implemented method for determining a production plan, said method comprising:

- receiving, by a computer, a file comprising purchase order receipts, said purchase order receipts being defined as line items on purchase orders (see paragraph 13, disclosing satisfying customer demand for products; paragraph 53, disclosing customer orders; paragraph 72, disclosing satisfying demand statements; paragraph 99, disclosing demand attribute data; figures 3, 11, and 12, disclosing demand);
- performing, by said computer, a first rescheduling process comprising rescheduling when said purchase order receipts are to be received by a plant so as to indicate that said purchase order receipts will be received by said plant during earlier time periods than initially specified (see paragraph 74, disclosing a backward explosion step; paragraph 78, disclosing the same; paragraphs 99-101, disclosing relaxing LP constraints to allow receipts to be received in the past);
- after said performing of said first rescheduling process, solving core production planning system equations with linear programming using rescheduled purchase order receipts associated with said earlier time periods from said first rescheduling process so as to determine an initial production plan (see paragraphs 99-101, disclosing solving an LP after first relaxing constraints to allow for receipts to be received in the past);

Art Unit: 3623

- after said solving, performing, by said computer, post-processing, said post-processing comprising:
  - performing a second rescheduling process comprising rescheduling when said rescheduled purchase order receipts from said first rescheduling process are to be received by said plant so as to indicate that said rescheduled purchase order receipts will be received by said plant during later time periods than specified during said first rescheduling process without causing inventory balances to be depleted to zero (see paragraphs 127-130, disclosing an LP horizon that runs strictly in the future while considering capacity); and
  - generating and outputting, by said computer, a final production plan based on said initial production plan and said second rescheduling process (see paragraph 138, disclosing generating a production plan).

While Hegde does not explicitly disclose receiving, by a computer, a file comprising purchase order receipts, said purchase order receipts being defined as line items on purchase orders, Hegde at least suggests this limitation (see sections cited above, suggesting receiving demand for a part number). Dangat explicitly discloses this limitation (see column 8: lines 50-52; figure 2: item 201). It would have been obvious to one of ordinary skill in the art at the time the invention was made to receiving the explicit demand data of Dangat to derive the part numbers of Hegde. This combination of known elements retains the functionality of the separate elements and produces a result that would be predictable to one of ordinary skill in the art.

Art Unit: 3623

Claim 5: Hegde discloses after said solving, sorting of said rescheduled purchase order receipts from said first rescheduling process (see paragraph 113, disclosing mapping demands after the LP has run, where the mapping order is determined according to a due date sequence or other priority sequence).

Claim 7: Hegde discloses recomputing ending inventory levels to reflect said rescheduling process (see paragraph 130, disclosing recomputing capacity after the LP has run).

**Claims 2-4, 6, 8, 10-21, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde (US 2003/0065415) in view of Dangat (US 5,971,585) and further in view of Crampton (US 2004/0030428).**

Claim 2: Hegde and Dangat do not explicitly disclose the limitations of this claim. Crampton discloses wherein said first rescheduling process is based upon a field that indicates whether a receipt may be rescheduled to an earlier point in time (see paragraph 92, disclosing that scheduled receipts can have start and end times; paragraphs 70-71, disclosing material horizons; paragraph 109, disclosing hard, soft, and no constraints; paragraph 64, disclosing freezing orders). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the constraints taught by Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan.

Art Unit: 3623

Claim 3: Hegde and Dangat do not explicitly disclose the limitations of this claim.

Crampton discloses wherein said first rescheduling process is based upon frozen zone rules (see paragraph 64, disclosing freezing orders). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the constraints taught by Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan.

Claim 4: Hegde and Dangat do not explicitly disclose the limitations of this claim.

Crampton discloses wherein said second rescheduling process is based upon one of a date of need (see paragraph 66), frozen zone rules (see paragraph 64), and date tolerances (see paragraph 92). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the constraints taught by Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan.

Claim 6: Hegde and Dangat do not explicitly disclose the limitations of this claim.

Crampton discloses wherein said sorting is based upon one of arrival dates, purchase order receipt quantity, and the flexibility of purchase order receipt movement with respect to frozen zone rules (see paragraphs 66 and 97-104 disclosing sorting, disclosing sorting by date, replenishment quantity, and inventory available date). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sorting taught by



Art Unit: 3623

Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan.

Claim 8: Claim 8 is substantially similar to previously rejected claims (1, 2, 5, and 6) and is rejected under similar rationale. Claim 8 also includes flags that limit when purchase order receipts can be rescheduled. Crampton discloses this limitation (see paragraph 72, disclosing flags; see also paragraph 92, disclosing that scheduled receipts can have start and end times; paragraphs 70-71, disclosing material horizons; paragraph 109, disclosing hard, soft, and no constraints). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the rescheduling flags taught by Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan.

Although Hegde and Dangat do not explicitly disclose rescheduling into the earliest and latest allowable time periods (rather, they disclose rescheduling into earlier or later time periods), Examiner takes Official Notice that it was well-known in the art at the time the invention was made to use maximum and minimum values for scheduling when using an LP (in order to obtain an optimal solution). Furthermore, the references at least suggest this limitation through the use of linear programming, which would reschedule into the earliest and latest allowable time periods in order to obtain an optimal solution. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hegde and Dangat's rescheduling into earlier and later time periods in order to reschedule into the earliest and latest allowable time

Art Unit: 3623

periods. One of ordinary skill in the art would have been motivated to do so for the benefit of obtaining an optimal production plan.

Claim 10: Claim 10 is substantially similar to claims 5 and 6 and is rejected under similar rationale.

Claim 11: Claim 11 contains limitations that are substantially similar to claim 1 and is rejected under similar rationale.

Claim 12: Hegde and Dangat do not explicitly disclose the limitations of this claim. Crampton discloses wherein if a time period for receiving by said plant of a purchase order receipt can be extended beyond the latest date of the planning horizon of said linear programming production planning system, said purchase order receipt is eliminated (see paragraphs 70-72, disclosing horizons). It would have been obvious to one of ordinary skill in the art at the time the invention was made to eliminate planning outside of a horizon as taught by Crampton when performing the scheduling of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan (i.e. by only processing priority orders).

Claim 13: Claim 13 is substantially similar to claim 7 and is rejected under similar rationale.

Art Unit: 3623

Claim 14: Hegde and Dangat do not explicitly disclose the limitations of this claim.

Crampton discloses wherein said second rescheduling process limits rescheduling to comply with contractual obligations and to avoid trivial rescheduling (see paragraph 64, disclosing freezing particular orders). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the constraints taught by Crampton into the rescheduling process of Hegde. One of ordinary skill in the art would have been motivated to do so for the benefit of a more optimal production plan and to avoid penalties associated with failing to meet contractual obligations.

Claims 15-21 and 23-27: Claims 15-21 and 23-27 are substantially similar to claims 8 and 10-14, and are rejected under similar rationale.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. Kardos whose telephone number is (571) 270-3443. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neil R. Kardos  
Examiner  
Art Unit 3623

/Neil R. Kardos/  
Examiner, Art Unit 3623

/Beth V. Boswell/  
Supervisory Patent Examiner, Art Unit 3623